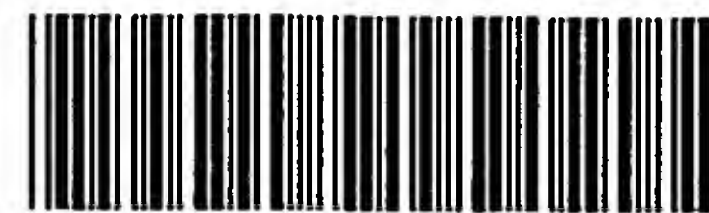# RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _____ 10/579, 025 _____

Source: _____ IFWP _____

Date Processed by STIC: _____ 05/23/2006 _____

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IFWP

RAW SEQUENCE LISTING   DATE: 05/23/2006
PATENT APPLICATION: US/10/579,025   TIME: 14:04:50

Input Set : A:\79535367.APP
Output Set: N:\CRF4\05232006\J579025.raw

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     3 <110> APPLICANT: THERION BIOLOGICS CORPORATION
     5 <120> TITLE OF INVENTION: CUSTOM VECTORS FOR TREATING AND PREVENTING PANCREATIC
     6       CANCER
     8 <130> FILE REFERENCE: 700953-53671-PCT
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/579,025
C--> 11 <141> CURRENT FILING DATE: 2006-05-11
    13 <150> PRIOR APPLICATION NUMBER: 60/519,354
    14 <151> PRIOR FILING DATE: 2003-11-12
    16 <160> NUMBER OF SEQ ID NOS: 6
    18 <170> SOFTWARE: PatentIn Ver. 3.3
    20 <210> SEQ ID NO: 1
    21 <211> LENGTH: 1548
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    23 <213> ORGANISM: Homo sapiens
    25 <400> SEQUENCE: 1
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    27 gttacgggtt ctggtcatgc aagctctacc ccaggtggag aaaaggagac ttcggctacc 120
    28 cagagaagtt cagtgcccag ctctactgag aagaatgctg tgagtatgac aagctccgta 180
    29 ctctccagcc acagccccgg ttcaggctcc tccaccactc agggacagga tgtcactctg 240
    30 gccccggcca cggaaccagc ttcaggttca gctgccttgt ggggacagga tgtcacctcg 300
    31 gtaccagtta ctagaccagc tttaggtagc acagcacctc ctgctcatgg agtaactagt 360
    32 gctcctgata ctcgtccagc tcctggcagt actgcaccac cggcacatgg cgtaacatca 420
    33 gcacctgata caagacctgc acctggatct acagcgccgc ctgcgcacgg agtgacatcg 480
    34 gcgcccgata cgcgccccgc tcccggtagc accgcaccgc ccgcccacgg tgttacaagt 540
    35 gcacccgata cccggccggc acccggaagt accgctccac ctgcacacgg ggtcacaagc 600
    36 gcgccagaca ctcgacctgc gccagggtcg actgcccctc cggcgcatgg tgtgacctca 660
    37 gctcctgaca caaggccagc cccagctagc actctggtgc acaacggcac ctctgccagg 720
    38 gctaccacaa ccccagccag caagagcact ccattctcaa ttcccagcca ccactctgat 780
    39 actcctacca cccttgccag ccatagcacc aagactgatg ccagtagcac tcaccatagc 840
    40 acggtacctc ctctcacctc ctccaatcac agcacttctc cccagttgtc tactggggtc 900
    41 tctttctttt tcctgtcttt tcacatttca aacctccagt ttaattcctc tctggaagat 960
    42 cccagcaccg actactacca agagctgcag agagacattt ctgaaatgtt tttgcagatt 1020
    43 tataaacaag ggggttttct gggcctctcc aatattaagt tcaggccagg atctgtggtg 1080
    44 gtacaattga ctctggcctt ccgagaaggt accatcaatg tccacgacgt ggagacacag 1140
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    46 gtgagtgatg tgccatttcc tttctctgcc cagtctgggg ctggggtgcc aggctggggc 1260
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    49 gatacctacc atcctatgag cgagtacccc acctaccaca cccatgggcg ctatgtgccc 1440
    50 cctagcagta ccgatcgtag cccctatgag aaggtttctg caggtaatgg tggcagcagc 1500
    51 ctctcttaca caaacccagc agtggcagcc acttctgcca acttgtag 1548
    54 <210> SEQ ID NO: 2
    55 <211> LENGTH: 515
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RAW SEQUENCE LISTING   DATE: 05/23/2006
PATENT APPLICATION: US/10/579,025   TIME: 14:04:50

Input Set : A:\79535367.APP
Output Set: N:\CRF4\05232006\J579025.raw

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57 <213> ORGANISM: Homo sapiens
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63 Val Leu Thr Val Val Thr Gly Ser Gly His Ala Ser Ser Thr Pro Gly
64              20                  25                  30
66 Gly Glu Lys Glu Thr Ser Ala Thr Gln Arg Ser Ser Val Pro Ser Ser
67          35                  40                  45
69 Thr Glu Lys Asn Ala Val Ser Met Thr Ser Ser Val Leu Ser Ser His
70       50                  55                  60
72 Ser Pro Gly Ser Gly Ser Ser Thr Thr Gln Gly Gln Asp Val Thr Leu
73 65                  70                  75                  80
75 Ala Pro Ala Thr Glu Pro Ala Ser Gly Ser Ala Ala Leu Trp Gly Gln
76              85                  90                  95
78 Asp Val Thr Ser Val Pro Val Thr Arg Pro Ala Leu Gly Ser Thr Ala
79              100                 105                 110
81 Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro
82          115                 120                 125
84 Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Glu Thr
85       130                 135                 140
87 Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser
88 145                 150                 155                 160
90 Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala His
91              165                 170                 175
93 Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala
94              180                 185                 190
96 Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro
97          195                 200                 205
99 Gly Ser Thr Ala Pro Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr
100       210                 215                 220
102 Arg Pro Ala Pro Ala Ser Thr Leu Val His Asn Gly Thr Ser Ala Arg
103 225                 230                 235                 240
105 Ala Thr Thr Thr Pro Ala Ser Lys Ser Thr Pro Phe Ser Ile Pro Ser
106              245                 250                 255
108 His His Ser Asp Thr Pro Thr Thr Leu Ala Ser His Ser Thr Lys Thr
109          260                 265                 270
111 Asp Ala Ser Ser Thr His His Ser Thr Val Pro Pro Leu Thr Ser Ser
112       275                 280                 285
114 Asn His Ser Thr Ser Pro Gln Leu Ser Thr Gly Val Ser Phe Phe Phe
115       290                 295                 300
117 Leu Ser Phe His Ile Ser Asn Leu Gln Phe Asn Ser Ser Leu Glu Asp
118 305                 310                 315                 320
120 Pro Ser Thr Asp Tyr Tyr Gln Glu Leu Gln Arg Asp Ile Ser Glu Met
121              325                 330                 335
123 Phe Leu Gln Ile Tyr Lys Gln Gly Gly Phe Leu Gly Leu Ser Asn Ile
124              340                 345                 350
126 Lys Phe Arg Pro Gly Ser Val Val Val Gln Leu Thr Leu Ala Phe Arg
127          355                 360                 365
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RAW SEQUENCE LISTING   DATE: 05/23/2006
PATENT APPLICATION: US/10/579,025   TIME: 14:04:50

Input Set : A:\79535367.APP
Output Set: N:\CRF4\05232006\J579025.raw

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129 Glu Gly Thr Ile Asn Val His Asp Val Glu Thr Gln Phe Asn Gln Tyr
130     370             375             380
132 Lys Thr Glu Ala Ala Ser Arg Tyr Asn Leu Thr Ile Ser Asp Val Ser
133 385             390             395             400
135 Val Ser Asp Val Pro Phe Pro Phe Ser Ala Gln Ser Gly Ala Gly Val
136             405             410             415
138 Pro Gly Trp Gly Ile Ala Leu Leu Val Leu Val Cys Val Leu Val Ala
139             420             425             430
141 Leu Ala Ile Val Tyr Leu Ile Ala Leu Ala Val Cys Gln Cys Arg Arg
142         435             440             445
144 Lys Asn Tyr Gly Gln Leu Asp Ile Phe Pro Ala Arg Asp Thr Tyr His
145     450             455             460
147 Pro Met Ser Glu Tyr Pro Thr Tyr His Thr His Gly Arg Tyr Val Pro
148 465             470             475             480
150 Pro Ser Ser Thr Asp Arg Ser Pro Tyr Glu Lys Val Ser Ala Gly Asn
151             485             490             495
153 Gly Gly Ser Ser Leu Ser Tyr Thr Asn Pro Ala Val Ala Ala Thr Ser
154         500             505             510
156 Ala Asn Leu
157     515
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161 <211> LENGTH: 2106
162 <212> TYPE: DNA
163 <213> ORGANISM: Homo sapiens
165 <400> SEQUENCE: 3
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167 acagcctcac ttctaacctt ctggaacccg cccaccactg ccaagctcac tattgaatcc 120
168 acgccgttca atgtcgcaga ggggaaggag gtgcttctac ttgtccacaa tctgccccag 180
169 catctttttg gctacagctg gtacaaaggt gaaagagtgg atggcaaccg tcaaattata 240
170 ggatatgtaa taggaactca acaagctacc ccagggcccg catacagtgg tcgagagata 300
171 atataccca atgcatccct gctgatccag aacatcatcc agaatgacac aggattctac 360
172 accctacacg tcataaagtc agatcttgtg aatgaagaag caactggcca gttccgggta 420
173 tacccggaac tccctaagcc ttctattagc tccaataata gtaagcctgt cgaagacaaa 480
174 gatgccgtcg cttttacatg cgagcccgaa actcaagacg caacatatct ctggtgggtg 540
175 aacaaccagt ccctgcctgt gtcccctaga ctccaactca gcaacggaaa tagaactctg 600
176 accctgttta acgtgaccag gaacgacaca gcaagctaca aatgcgaaac ccaaaatcca 660
177 gtcagcgcca ggaggtctga ttcagtgatt ctcaacgtgc tttacggacc cgatgctcct 720
178 acaatcagcc ctctaaacac aagctataga tcaggggaaa atctgaatct gagctgtcat 780
179 gccgctagca atcctcccgc ccaatacagc tggtttgtca atggcacttt ccaacagtcc 840
180 acccaggaac tgttcattcc caatattacc gtgaacaata gtggatccta cacgtgccaa 900
181 gctcacaata gcgacaccgg actcaaccgc acaaccgtga cgacgattac cgtgtatgag 960
182 ccaccaaaac cattcataac tagtaacaat tctaacccag ttgaggatga ggacgcagtt 1020
183 gcattaactt gtgagccaga gattcaaaat accacttatt atggtgggt caataaccaa 1080
184 agtttgccgg ttagcccacg cttgcagttg tctaatgata ccgcacatt gacactcctg 1140
185 tccgttactc gcaatgatgt aggaccttat gagtgtggca ttcagaatga attatccgtt 1200
186 gatcactccg accctgttat ccttaatgtt ttgtatggcc cagacgaccc aactatatct 1260
187 ccatcataca cctactaccg tcccggcgtg aacttgagcc tttcttgcca tgcagcatcc 1320
188 aacccccctg cacagtactc ctggctgatt gatggaaaca ttcagcagca tactcaagag 1380
189 ttatttataa gcaàcataac tgagaagaac agcggactct atacttgcca ggccaataac 1440
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190 tcagccagtg gtcacagcag gactacagtt aaaacaataa ctgtttccgc ggagctgccc 1500
191 aagccctcca tctccagcaa caactccaaa cccgtggagg acaaggatgc tgtggccttc 1560
192 acctgtgaac ctgaggctca gaacacaacc tacctgtggt gggtaaatgg tcagagcctc 1620
193 ccagtcagtc ccaggctgca gctgtccaat ggcaacagga ccctcactct attcaatgtc 1680
194 acaagaaatg acgcaagagc ctatgtatgt ggaatccaga actcagtgag tgcaaaccgc 1740
195 agtgacccag tcaccctgga tgtcctctat gggccggaca cccccatcat ttccccccca 1800
196 gactcgtctt acctttcggg agcggacctc aacctctcct gccactcggc ctctaaccca 1860
197 tccccgcagt attcttggcg tatcaatggg ataccgcagc aacacacaca agttctcttt 1920
198 atcgccaaaa tcacgccaaa taataacggg acctatgcct gttttgtctc taacttggct 1980
199 actggccgca ataattccat agtcaagagc atcacagtct ctgcatctgg aacttctcct 2040
200 ggtctctcag ctggggccac tgtcggcatc atgattggag tgctggttgg ggttgctctg 2100
201 atatag                                                              2106
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206 <212> TYPE: PRT
207 <213> ORGANISM: Homo sapiens
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213 Pro Glu Ile Gln Asn Thr Thr Tyr Leu Trp Trp Val Asn Asn Gln Ser
214              20                  25                  30
216 Leu Pro Val Ser Pro Arg Leu Gln Leu Ser Asn Asp Asn Arg Thr Leu
217          35                  40                  45
219 Thr Leu Leu Ser Val Thr Arg Asn Asp Val Gly Pro Tyr Glu Cys Gly
220      50                  55                  60
222 Ile Gln Asn Glu Leu Ser Val Asp His Ser Asp Pro Val Ile Leu Asn
223  65                  70                  75                  80
225 Val Leu Tyr Gly Pro Asp Asp Pro Thr Ile Ser Pro Ser Tyr Thr Tyr
226              85                  90                  95
228 Tyr Arg Pro Gly Val Asn Leu Ser Leu Ser Cys His Ala Ala Ser Asn
229          100                 105                 110
231 Pro Pro Ala Gln Tyr Ser Trp Leu Ile Asp Gly Asn Ile Gln Gln His
232          115                 120                 125
234 Thr Gln Glu Leu Phe Ile Ser Asn Ile Thr Glu Lys Asn Ser Gly Leu
235      130                 135                 140
237 Tyr Thr Cys Gln Ala Asn Asn Ser Ala Ser Gly His Ser Arg Thr Thr
238 145                 150                 155                 160
240 Val Lys Thr Ile Thr Val Ser Ala Glu Leu Pro Lys Pro Ser Ile Ser
241              165                 170                 175
243 Ser Asn Asn Ser Lys Pro Val Glu Asp Lys Asp Ala Val Ala Phe Thr
244          180                 185                 190
246 Cys Glu Pro Glu Ala Gln Asn Thr Thr Tyr Leu Trp Trp Val Asn Gly
247          195                 200                 205
249 Gln Ser Leu Pro Val Ser Pro Arg Leu Gln Leu Ser Asn Gly Asn Arg
250      210                 215                 220
252 Thr Leu Thr Leu Phe Asn Val Thr Arg Asn Asp Ala Arg Ala Tyr Val
253 225                 230                 235                 240
255 Cys Gly Ile Gln Asn Ser Val Ser Ala Asn Arg Ser Asp Pro Val Thr
256              245                 250                 255
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```
258 Leu Asp Val Leu Tyr Gly Pro Asp Thr Pro Ile Ile Ser Pro Pro Asp
259         260             265             270
261 Ser Ser Tyr Leu Ser Gly Ala Asp Leu Asn Leu Ser Cys His Ser Ala
262         275             280             285
264 Ser Asn Pro Ser Pro Gln Tyr Ser Trp Arg Ile Asn Gly Ile Pro Gln
265     290             295             300
267 Gln His Thr Gln Val Leu Phe Ile Ala Lys Ile Thr Pro Asn Asn Gly
268 305             310             315             320
270 Thr Tyr Ala Cys Phe Val Ser Asn Leu Ala Thr Gly Arg Asn Asn Ser
271             325             330             335
273 Ile Val Lys Ser Ile Thr Val Ser Ala Ser Gly Thr Ser Pro Gly Leu
274         340             345             350
276 Ser Ala Gly Ala Thr Val Gly Ile Met Ile Gly Val Leu Val Gly Val
277         355             360             365
279 Ala Leu Ile
280     370
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284 <211> LENGTH: 31
285 <212> TYPE: DNA
286 <213> ORGANISM: Artificial Sequence
288 <220> FEATURE:
289 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
290       primer
292 <400> SEQUENCE: 5
293 ggtaccggta ccatggaagg ggaaggggtt c                                 31
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297 <211> LENGTH: 31
298 <212> TYPE: DNA
299 <213> ORGANISM: Artificial Sequence
301 <220> FEATURE:
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303       primer
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VERIFICATION SUMMARY   DATE: 05/23/2006
PATENT APPLICATION: **US/10/579,025**   TIME: 14:04:51

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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date